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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,410

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Andrew Blackmore

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EXAMINER

RECEK, JASON D

ART UNIT

PAPER NUMBER

2109

MAIL DATE

DELIVERY MODE

09/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,410

Applicant(s)

BLACKMORE, ANDREW

Examiner

Jason Recek

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-86 is/are rejected.
- 7) ☒ Claim(s) 48-51, 60, 61, 84 and 86 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :29 March 2005, 04 November 2005.

DETAILED ACTION

This is in response to application 10/529410 filed on March 29th 2005 in which claims 1-86 are presented for examination.

Status of Claims

Claims 1-43 are cancelled.

Claims 44-86 are pending of which claims 44, 78, 83 and 85 are in independent form.

Claims 48-51, 60-61, 84 and 86 are currently objected to.

Claims 78-82 and 84 are currently rejected under 35 U.S.C. 101.

Claims 53-56 are currently rejected under 35 U.S.C. 112 second paragraph.

Claims 44-52, 57-60, 62 and 64-86 are currently rejected under 35 U.S.C 102(b).

Claims 53-56, 61 and 63 are currently rejected under 35 U.S.C 103(a).

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in

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upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

1. The disclosure is objected to because of the following informalities: it does not contain headings.

Appropriate correction is required.

Claim Objections

2. Claims 48-49 are objected to because of the following informalities: the phrase "polls the one of the ..." in line 2 is not proper English. It would be clearer if the claim read "polls one of the ...". Appropriate correction is required.

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3. Claims 50-51 are objected to because of the following informalities: the phrase "if the one of the ..." in line 2 is not proper English. Also, the use of "its" in line 2 makes the claims indefinite. The word "its" raises a question as to which NE is considered to be operational. Appropriate correction is required.

4. Claims 60-61 are objected to because of the following informalities: the phrase "of the one of the ..." in line 3 is not proper English. Claim 61 is also rejected because in line 3 the phrase "the NE at the at least one other NE" should read "the NE *and* the at least one other NE". Appropriate correction is required.

5. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Claims 84 and 86 are written in such a manner that they are dependent from claims 78 and 44 respectively, thus they are incorrectly numbered because they are separated from their parent claim by an independent claim.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 78-82 and 84 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 78, a "program product" made up of three means is being claimed. However, it appears that one of ordinary skill in the art could interpret the system as software, per se. As defined in the specification, it is clear that each of the means is a software instruction to be executed, thus constitutes functional descriptive material. When recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases.

Regarding claims 79-82 and 84 they inherit the deficiency of the parent claim and therefore are rejected based on the same rationale as applied to the parent claim above.

Claim Rejections - 35 USC § 112 .

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 53-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 53 recites the limitation "the status of an interface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 54-56 are rejected for depending from a rejected claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 44-52, 57-60, 62 and 64-86 are rejected under 35 U.S.C. 102(b) as being anticipated by Dev et al. U.S. Pat. 5,261,044.

Regarding claim 44, Dev discloses "a method of monitoring a status of network elements" as a network management system (abstract), "receiving a down status notification from a NE in the network" as receiving status information from network devices (col. 5 ln. 34-36), "identifying at least one other NE which is linked to the NE" as determining adjacent network elements (col. 11 ln. 17-24), and "polling one of the NE

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and the at least one other NE to determine the status thereof” as polling network devices (col. 11 ln. 30-34).

Regarding claims 45-46, Dev discloses “in which the status of the NE is operational” and “in which the status of the NE is non-operational” as sending operational status (col. 5 ln. 36-40).

Regarding claim 47, Dev discloses “the down status notification is received from the NE if the NE determines that the status of the at least one other NE linked thereto is non-operational” as a failure status may be received due to another device failing (col. 10 ln. 67 – col. 11 ln. 7).

Regarding claim 48, Dev discloses “each NE polls the one of the NE and the at least one other NE linked thereto to determine the status of the at least one other NE” as a network device that polls adjacent network devices to determine status information (col. 11 ln. 17-22, ln. 34-37).

Regarding claim 49, Dev discloses “each NE polls the one of the NE and the at least one other NE linked thereto by signaling to the at least one other NE, using a signaling protocol” as using a communication protocol for polling (col. 7 ln. 34-39).

Regarding claims 50-51, Dev discloses “if the one of the NE and the at least one other NE replies, its status is considered to be operational” and “if the one of the NE and the at least one other NE does not reply, its status is considered to be non-operational” as considering a device operational if a reply is returned (col. 9 ln. 18-21) and considering a device to be faulty if no reply is received (col. 9 ln. 33-36).

Regarding claim 52, Dev discloses “the down status notification contains information on the NE which has output the notification” as a status information message that contains information about the NE (col. 5 ln. 36-40).

Regarding claims 57-58, Dev discloses “the down status notification is received using a signaling protocol” and “the signaling protocol comprises a simple network management protocol (SNMP)” as using a common network protocol for communication such as SNMP (col. 4 ln. 23-31).

Regarding claim 59, Dev discloses “the identifying step comprises accessing the down status notification to obtain information on the NE which has output the notification” as processing the information received from the network device (col. 5 ln. 36-38) which includes information on the NE (col. 5 ln. 38-40).

Regarding claim 60, Dev discloses “the identifying step comprises accessing a links database containing details of each NE and the at least one other NE linked

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thereto” as a network management system includes a database that holds information concerning the network devices (col. 4 ln. 13-18), and “using the information to obtain the identification of the one of the NE and the at least one other NE” as accessing the database to retrieve messages that contain identification information (col. 8 ln. 26-33).

Regarding claim 62, Dev discloses “the polling step comprises sending at least one simple network management protocol (SNMP) get request to the NE” as using SNMP for communication (col. 4 ln. 28-30) and polling (col. 7 ln. 32-34).

Regarding claim 64, Dev discloses “using a network management system (NMS) of the telecommunication network” as using a network management system on the network (abstract, col. 3 ln. 66 – col. 4 ln. 5, Fig. 1).

Regarding claim 65, Dev discloses “the NMS comprises a fault manager module” as a NMS that can handle faults (col. 10 ln. 1-2, col. 11 ln. 12-14).

Regarding claim 66, Dev discloses “the fault manager module receives the down status notification from the NE” as a network management system which handles faults receives the status notification from the network device (col. 7 ln. 54-58).

Regarding claim 67, Dev discloses “the fault manager module places the down status notification in a notification database of the NMS” as a network management

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system that places notifications into a database (col. 3 ln. 68 – col. 4 ln. 2, col. 2 ln. 13-18, col. 8 ln. 21-25, Fig. 1).

Regarding claim 68, Dev discloses “the fault manager module outputs a message on receipt of the down status notification” as outputting an alarm to the user when an error is received (col. 9 ln. 26-30).

Regarding claim 69, Dev discloses “the NMS comprises a monitoring module” as a device communication manager (Fig. 1) that communicates with network devices (col. 4 ln. 18-21). When network devices automatically send status updates (col. 7 ln. 54-58) this device is in a monitoring mode.

Regarding claim 70, Dev discloses “the monitoring module receives a message output from the fault manager module when it receives the down status notification” as the communication module receives a request to poll from the fault manager (col. 7 ln. 34-36) when the fault manager receives a status notification (col. 11 ln. 17-22), this request to poll is a message.

Regarding claim 71, Dev discloses “the monitoring module accesses the down status notification, to obtain information on the NE which has output the notification” as the communication module extracts information from the notification (col. 7 ln. 39-44).

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Regarding claim 72, Dev discloses “the monitoring module accesses a links database of the NMS containing details of each NE and the at least one other NE linked thereto” as a database that contains details of each network device (col. 4ln. 13-18) and is accessed by the NMS (col. 8 ln. 16-20), “and uses the information to obtain the identification of one of the NE and each other NE” as getting information from the database for the purposes of identification (col. 10 ln. 41-61).

Regarding claim 73, Dev discloses “the monitoring module polls one of the NE and each other NE to determine the status thereof” as polling networking devices (col. 5 ln. 31-34).

Regarding claim 74, Dev discloses “the monitoring module determines the status of at least one NE of the network, and adds status information to a status database of the NMS” as polling to determine status (col. 5 ln. 31-34) and storing information in a database (col. 8 ln. 21-25).

Regarding claim 75, Dev discloses “the NMS comprises a graphical user interface (GUI) module” as a user interface that is window-based (col. 12 ln. 64-68).

Regarding claim 76, Dev discloses “the GUI module is used to report the status of one of the NE and the at least one other NE of the network to a customer of the network” as providing status reports through the user interface (col. 4 ln. 2-9).

Regarding claim 77, Dev discloses “the NEs in the telecommunication network comprise nodes, switches and routers” as network devices such as bridges and routers (col. 5 ln. 44-47).

Regarding claim 78, it is substantially similar to claim 44 and is therefore rejected for the same reasons.

Regarding claim 79, Dev discloses a computer program product “comprised in a network management system (NMS) of the telecommunication network” as a network management system running on a computer (col. 4 ln. 58 – col. 5 ln. 6).

Regarding claim 80, Dev discloses “means for receiving the down status notification from the NE of the network comprises a fault manager module of the NMS” as a NMS that can handle faults (col. 10 ln. 1-2, col. 11 ln. 12-14).

Regarding claim 81, Dev discloses “means for identifying the at least one other NE which is linked to the NE comprises a monitoring module of the NMS” as a device communication manager (Fig. 1) that communicates with network devices (col. 4 ln. 18-21).

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Regarding claim 82, Dev discloses "means for polling comprises the monitoring module of the NMS" as polling networking devices (col. 7 ln. 34-37).

Regarding claim 83, it is a system claim that is substantially similar to the method claim 44 and is therefore rejected for the same reasons.

Regarding claim 84, Dev discloses "a computer system whose operation is directed by the computer program product according to claim 78" see claim 44 rejection.

Regarding claim 85, Dev discloses "a computer readable medium [containing instructions for performing the method of claim 44]" as the method is carried out on a computer system (col. 4 ln. 58-62) and therefore the instructions must be contained on computer readable medium.

Regarding claim 86, it is substantially similar to claim 85 and is therefore rejected for the same reasons.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dev in view of Walker et al. 6,061,723.

Regarding claim 53, Dev discloses "the down status notification is received from a NE" as a NE sends a status notification (col. 7 ln. 54-57), however Dev does not specifically disclose sending a status notification when "the NE determines that the status of an interface thereof linked to at least one other NE is non-operational" this is taught by Walker as analyzing the status of network interfaces (col. 5 ln. 61-62).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Dev with the interface status monitoring ability taught by Walker. The motivation for doing so is to aid the network administrator in their effort to identify and fix network failures (Walker col. 4 ln. 19-23).

Regarding claim 54, Dev discloses "the status of the interface is non-operational if the status of the one of the NE and the at least one other NE linked to the interface is non-operational" When a NE is non-operational the network device will not be able to make contact with that NE over the interface, thus when a NE becomes non-operational the interface is also non-operational and a status message is sent (col. 10 ln. 67 – col. 11 ln. 7, col. 7 ln. 54-58).

Regarding claim 55, Dev discloses “the down status notification contains information on the NE which has output the notification” as a status message containing information about the network device (col. 5 ln. 34-40), however Dev does not disclose “and information on the interface of the NE which is non-operational” this is taught by Walker as sending information to a network administrator concerning the network interface (col. 5 ln. 52-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Dev with the interface status monitoring ability taught by Walker. The motivation for doing so is to aid the network administrator in their effort to identify and fix network failures (Walker col. 4 ln. 19-23).

Regarding claim 56, Dev discloses “the interface comprises a hardware port” as interfaces that connect the network devices (col. 5 ln. 20-22, Fig. 2). Dev does not specifically disclose “and the down status notification comprises a hardware port down trap” however Dev discloses using Simple Network Management Protocol (col. 4 ln. 27-29) which is commonly used to issue traps, thus having a down trap in a status message would have been obvious to one of ordinary skill in the art at the time of the invention for the purpose of notifying a network administrator that there was a problem with the network. Such use of a down trap in a status message is a known technique that yields predictable results.

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14. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dev.

Regarding claim 61, Dev discloses "the identifying step comprises accessing the links database" as accessing the database to retrieve messages that contain identification information (col. 8 ln. 26-33). Dev does not specifically disclose "using the information to obtain an internet protocol (IP) address of the one of the NE at the at least one other NE" however Dev teaches using SNMP (col. 4 ln. 28-29) which uses IP addresses to identify network devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to extract the IP address from the database for the purpose of identifying the specific device. The motivation for doing so is to clearly identify the network entity for which information is being provided (col. 2 ln. 18-20).

15. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dev in view of Anderson et al. US 2006/0282521 A1.

Regarding claim 63, Dev discloses "the polling step comprises using the SNMP" as using SNMP for communication (col. 2 ln. 18-20). Dev does not explicitly disclose using SNMP "over transmission control protocol/internet protocol (TCP/IP)" however Anderson teaches this as communicating with a server over TCP/IP when polling (abstract, paragraph 63, Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Dev by using TCP/IP taught by Anderson for the purpose of communicating over the network. TCP/IP is a known technique that produces predictable results.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Srinivasan U.S. Pat. 6,968,371 B1 discloses a NMS containing a fault module and a monitoring module.

Grigsby US 2003/0208577 A1 discloses a management system that uses traps.

Lovy et al. U.S. Pat. 7,197,561 B1 discloses a management system that uses on demand polling and is capable of detecting link failures.

Davis et al. U.S. Pat. 6,701,449 B1 discloses a method for identifying faulty network devices through status messages.

Fan et al. U.S. 6,643,269 B1 discloses a system where nodes automatically check on neighbor nodes.

Kanamaru et al. U.S. 6,574,197 B1 discloses a network monitoring device for checking status of neighboring nodes.

Armstrong U.S. Pat. 5,542,047 discloses network monitoring of nodes and links.

Lin et al. U.S. 6,405,250 B1 discloses a passive network monitor.

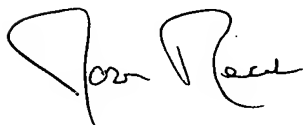
Chisholm U.S. 6,697,970 B1 discloses a NMS using SNMP to detect faults.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Recek whose telephone number is (571) 270-1975. The examiner can normally be reached on Mon - Thurs 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby can be reached on (571) 272-4017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Recek
8/28/07



FRANTZ COBY
SUPERVISORY PATENT EXAMINER